discovered a very interesting series of finely laminated carbonaceous shales, which proved to be rich in plant remains. Various species of ferns of a new and interesting character were obtained belonging to the genera Pecopteris, Thinnfeldia, Odontopteris, Tæniopteris. One splendid specimen, with ovate lanceolate pinnules, which have peculiar laciniate margins, is peculiarly interesting, and may prove to belong to the genus Otopteris.

The distribution shows nothing but the remains of Phyllotheca and Zeugophyllites in certain beds and localities, while in contiguous or closely related beds hardly any other forms than those of Pecopteris, Thinnfeldia, and Tæniopteris, therefore great caution must be exercised for the present in separating beds of this system upon the evidence of organic remains only.

The restriction of particular forms to particular beds may only indicate a slight local difference in vegetation rather than difference in age or even horizon. However, on a future occasion, I will deal more fully with this important subject, for which I am now provided with many rich and interesting materials.

In conclusion, I draw attention to figures of some of the new plant forms from Spring Hill, Porter Hill, and the lower coal measures of the Mersey. The large imperfect frond from the Porter Hill beds, cythere shales, appears to belong either to the genus Cyclopteris or Gangamopteris. The spathulate frond found associated with Glossopteris Browniana from the lower coal measures of the Mersey is, I believe, identical with Noeggerathiopsis media of New South Wales.

The large equisetaceous impression from the same place, at the Mersey, is closely allied, if not identical, with a form of Schizoneura, figured by Feistmantel from the Lower Gondwana series, India.

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*JUNGERMANNIA RETICULATA.

By R. A. Bastow.

(*Read April* 14, 1885.)

The specimen now submitted for your observation under the microscope was gathered from the Springs on the side of Mount Wellington, on the 10th March last, close to a clear

*This genus is named in honour of Louis Jungermann, a German botanist.

but somewhat rapid stream. After a protracted examination of the specimen, in its dry state, when moistened, as an opaque object, and as a transparent one mounted in glycerine medium, it appears to be different to any species of Jungermannia yet identified in Tasmania, and unlike any described in Flora Tasmania. It does, however, closely resemble *Jungermannia reticulata* as described in the Hepaticæ of Campbell's Islands, in No. 1, Vol. 1, of Flora Antarctica; the specimen is, therefore, rightly; or wrongly so named. Both a siccate and a mounted specimen of the plant have been submitted to Baron von Mueller, in order to obtain his opinion of the correctness of its classification. He referred me, in a long, kind, and encouraging reply, to the treatises by specialists in this Library, and which, in the meantime, I had carefully consulted, with the result just recorded.

This Jungermannia grows as a low tuft, from 2in. to 3in. wide, and close to the ground. The stems are much entangled, and in general aspect are nearly black. As closely as I can make out, the direction of the leaves succubous, and there are remarkable auricular growths at their bases, in form reminding one of the clubs in which gymnasts take delight. These curious auricles appear also to proceed from the stem, as well as from the bases of the leaves, and probably take the place of the stipule lobes, as has been suggested by Sir J. Hooker with regard to similar appendages on plants of this and other genera. The appearance of the plant is beautiful under the microscope, and to those who have not made Hepaticæ a special study, it is extraordinary, especially as an opaque moist object, the club-shaped auricles then appear to advantage. The areolation of the leaves is very lax and pellucid, the cell-walls being clearly visible with a low power; the stem leaves appear to be entire or nearly so, and the upper ones are ciliated; the cilia are also very distinct with a low power. The colour of the leaves is from reddish-brown at the bases to yellowish green at the apices.

It may be assumed that beetles, ants, and such-like small creatures behold these minute forms as large growths, in like manner as we behold the lovely Acacia or the sombre Eucalyptus. To such small creatures the J. reticulata must offer a charming retreat, screening them, as it does, from the stronger light by its many-tinted diaphanous network of cell-structure, and its ruby evascular stems. They must, indeed, enjoy themselves, and live lives of pleasure as they luxuriate

"Beneath Hepatic's golden-pencilled shield,
Whose fronds of varied hue a close protection yield."